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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,783	04/04/2001	Jian-Feng Chen	2001 P 05879 US	1315
7590 02/04/2005			EXAMINER	
Siemens Corporation Attn: Elsa Keller, Legal Administrator Intellectual Property Department 186 Wood Avenue South Iselin, NJ 08830			COUSO, YON JUNG	
			ART UNIT	PAPER NUMBER
			2625	

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/825,783	Applicant(s) CHEN ET AL.	
	Examiner Yon Couso	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5, 6 and 11-16 is/are allowed.
- 6) ☒ Claim(s) 1, 7 and 9 is/are rejected.
- 7) ☒ Claim(s) 2-4, 8, 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. Applicant's arguments filed November 9, 2004 have been fully considered but they are not persuasive.

a. The applicant argues that although Hossack discloses compression, all references to compression with Hossack are data compression. The applicant further argues that the claims of the present application relates to tissue compression for strain imaging, wherein compression is to be achieved by inducing a physical pressure on tissue. It is noted that "wherein compression is to be achieved by inducing a physical pressure on tissue" is not a limitation of the claims. Applicant is reminded of 37 CFR 1.111(b) which states that, a "general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references does not comply with the requirement of this section".

b. The applicant argues that the Ophir does not teach a strain estimate for estimating each of the at least two regions of interest (ROIs) based upon motion analysis and compares the strain estimates to each of the at least two ROIs to quantify the strain for the at least two ROIs. Note that the Ophir reference is used in the rejection to show an elastographic measurement and imaging system comprising the steps of providing a strain estimate and comparing the strain estimates for at least two ROIs (column 9, lines 9-47). Nonobviousness cannot be established by attacking references individually when the rejection is predicated upon a combination of prior art disclosure. In re Merck and Co., Inc. 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) and In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Hossack discloses an ultrasound

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imaging system for improving the resolution comprising the steps of: performing a motion analysis on at least two selected Regions of Interest (ROI) before and after tissue compression (column 22, lines 25-55 and column 7, line 64 through column 8, line 10). Hossack also discloses a medical imaging system for imaging tissue under a predetermined compression profile without specific details regarding the steps of providing a strain estimate and comparing the strain estimates. Ophir discloses an elastographic measurement and imaging system comprising the steps of providing a strain estimate and comparing the strain estimates for at least two ROIs (column 9, lines 9-47). It's the combination of the references that would have made obvious to one having ordinary skill in the art at the time the invention was made, given the references, to use the steps of providing and comparing strain estimates as taught by the Ophir's system into the Hossack reference because Ophir provides Hossack with a system which allows Hossack for accurate, localized determination and imaging of important parameter, compressibility, which has been used qualitatively in medicine for a very long time.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hossack et al. (US 5,873,830) in view of Ophir et al. (US 5,178,147).

Regarding claims 1 and 7, Hossack discloses an ultrasound imaging system for improving the resolution comprising the steps of:

performing a motion analysis on at least two selected Regions of Interest (ROI) before and after tissue compression (column 22, lines 25-55 and column 7, line 64 through column 8, line 10).

Hossack discloses a medical imaging system for imaging tissue under a predetermined compression profile without specific details regarding the steps of providing a strain estimate and comparing the strain estimates.

In the same field of endeavor, however, Ophir discloses an elastographic measurement and imaging system comprising the steps of providing a strain estimate and comparing the strain estimates for at least two ROIs (column 9, lines 9-47).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the steps of providing and comparing strain estimates as taught by Ophir in the system of Hossack because Ophir provides

Hossack with a system which allows Hossack for accurate, localized determination and imaging of important parameter, compressibility, which has been used qualitatively in medicine for a very long time.

As to claim 9, Hossack discloses the steps of generating a plurality of blocks and utilizing block-matching technique touching a boundary of the two regions (column 10, lines 40-60 and column 13, lines 20-34).

3. Claims 2-4, 8, and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 5, 6, 11-16 are allowed.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yon Couso whose telephone number is (703) 305-4779. The examiner can normally be reached on Monday through Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YJC



YON J. COUSO
PRIMARY EXAMINER

February 3, 2005